

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	34	HFB1 or HFBII	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 11:35
S2	11	(HFB1 or HFBII) and (foaming or foam)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 11:34
S3	5	(HFB1 or HFBII) same (foaming or foam)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 11:34
S4	148	hydrophobin	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 11:39
S5	18	hydrophobin and (foam or foaming)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 11:39
S6	8	hydrophobin same (foam or foaming)	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 11:36
S7	29	hydrophobin and fermentation	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 11:40
S8	11	hydrophobin same fermentation	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 11:41
S9	60	hydrophobin and trichoderma	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 11:42
S10	10	hydrophobin and trichoderma and foam\$	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 11:42
S11	22	hydrophobin same trichoderma	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 11:42

## EAST Search History

S12	15	hydrophobin and trichoderma and fermentation	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 11:43
S13	428	fungal with host with production	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 12:08
S14	64	fungal with host with production and hydrophobic with proteins	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 12:09
S15	0	fungal with host with production same hydrophobic with proteins	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 12:09
S16	64	fungal with host with production and hydrophobic with proteins	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 12:09
S17	64	fungal with host with production and hydrophobic with proteins and polypeptides	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 12:09
S18	38	fungal with host with production and hydrophobic with protein and fermentation	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 12:10
S19	0	fungal with host with production and hydrophobic with protein same fermentation	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 12:10
S20	38	fungal with host with production and hydrophobic with protein and fermentation	US-PGPUB; USPAT; EPO; JPO; DERWENT	OR	ON	2007/01/25 12:10

FULL ESTIMATED COST

0.21

0.21

INDEX 'ADISCTI, ADISINSIGHT, ADISNEWS, AGRICOLA, ANABSTR, ANTE, AQUALINE, AQUASCI, BIOENG, BIOSIS, BIOTECHABS, BIOTECHDS, BIOTECHNO, CABA, CAPLUS, CEABA-VTB, CIN, CONFSCI, CROPB, CROPUS, DDFB, DDFU, DGENE, DISSABS, DRUGB, DRUGMONOG2, DRUGU, EMBAL, EMBASE, ...' ENTERED AT 12:47:38 ON 25 JAN 2007

68 FILES IN THE FILE LIST IN STNINDEX

Enter SET DETAIL ON to see search term postings or to view  
search error messages that display as 0\* with SET DETAIL OFF.

=> (HFBI or HFBII) and foam

1 FILE AGRICOLA  
1 FILE BIOENG  
1 FILE BIOSIS  
1 FILE BIOTECHNO  
1 FILE CAPLUS  
1 FILE CEABA-VTB  
1 FILE EMBASE  
1 FILE ESBIOSIS  
1 FILE LIFESCI  
1 FILE MEDLINE

46 FILES SEARCHED...

1 FILE PASCAL  
1 FILE SCISEARCH  
8 FILE USPATFULL  
2 FILE USPAT2

14 FILES HAVE ONE OR MORE ANSWERS, 68 FILES SEARCHED IN STNINDEX

L1 QUE (HFBI OR HFBII) AND FOAM

=> file agricola bioeng biosis biotechno caplus embase lifesci  
COST IN U.S. DOLLARS

	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.52	2.73

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=> (HFBI or HFBII) and foam

L2 7 (HFBI OR HFBII) AND FOAM

=> d ti 1-7

L2 ANSWER 1 OF 7 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved. (2007) on STN

TI Process technological effects of deletion and amplification of hydrophobins I and II in transformants of *Trichoderma reesei*.

L2 ANSWER 2 OF 7 BIOENG COPYRIGHT 2007 CSA on STN

TI Process technological effects of deletion and amplification of hydrophobins I and II in transformants of *Trichoderma reesei*

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TI Process technological effects of deletion and amplification of hydrophobins I and II in transformants of *Trichoderma reesei*

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TI Process technological effects of deletion and amplification of hydrophobins I and II in transformants of *Trichoderma reesei*

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TI Process technological effects of deletion and amplification of hydrophobins I and II in transformants of *Trichoderma reesei*.

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TI Process technological effects of deletion and amplification of hydrophobins I and II in transformants of *Trichoderma reesei*

=> d ab bib 2

L2 ANSWER 2 OF 7 BIOENG COPYRIGHT 2007 CSA on STN

AB Transformants of the *Trichoderma reesei* strains QM9414 and Rut-C30 were constructed in which the genes for the two major hydrophobin proteins, hydrophobins I (HFBII) and II (HFBIII), were deleted or amplified by molecular biological techniques. Growth parameters and foam production of the transformant strains were compared with the corresponding properties of the parent strains by cultivation in laboratory bioreactors under conditions of catabolite repression (glucose medium) or induction of cellulolytic enzymes and other secondary metabolites (cellulose and lactose media). All the transformed strains exhibited vegetative growth properties similar to those of their parent. The Delta hfb2 (but not the Delta hfb1) transformant showed reduced tendency to foam, whereas both strains overproducing hydrophobins foamed extensively, particularly in the case of HFBII. Enzyme production on cellulose medium was unaltered in the Delta hfb2 transformant VTT D-99676, but both the Delta hfb2 and HFBIII-overproducing transformants exhibited somewhat decreased enzyme production properties on lactose medium. Production of HFBII by the multi-copy transformant VTT D-98692 was almost 3-fold that of the parent strain QM9414. Overproduction of HFBII by the transformant VTT D-99745, obtained by transformation with three additional copies of the hfb2 gene under the cbh1 promoter, was over 5-fold compared to production by the parent strain Rut-C30. The Delta hfb2 transformant VTT D-99676 produced a greatly increased number of spores on lactose medium compared with the parent strain, whereas the HFBIII-overproducing transformant VTT D-99745 produced fewer spores.

AN 2004420860 BIOENG  
DN 5381331  
TI Process technological effects of deletion and amplification of hydrophobins I and II in transformants of *Trichoderma reesei*  
AU Bailey, MJ; Askolin, S; Hoerhammer, N; Tenkanen, M; Linder, M; Penttilae, M; Nakari-Setälä, T  
CS VTT Biotechnology, Box 1500, 02044 VTT, Finland,  
[mailto:michael.bailey@vtt.fi]  
SO Applied Microbiology and Biotechnology [Appl. Microbiol. Biotechnol.].  
Vol. 58, no. 6, pp. 721-727. May 2002.  
Published by: Springer-Verlag, [URL:[http://link.springer.de/link/service/journals/00253/bibs/2058\\_006/20580721.htm](http://link.springer.de/link/service/journals/00253/bibs/2058_006/20580721.htm)]  
ISSN: 0175-7598  
DT Journal  
LA English  
SL English  
OS Agricultural and Environmental Biotechnology Abstracts; Microbiology Abstracts C: Algology, Mycology & Protozoology

=> hydrophobin and foam  
L3 14 HYDROPHOBIN AND FOAM

=> dup remove  
ENTER L# LIST OR (END):13  
PROCESSING COMPLETED FOR L3  
L4 4 DUP REMOVE L3 (10 DUPLICATES REMOVED)

=> d ti 1-4

L4 ANSWER 1 OF 4 AGRICOLA Compiled and distributed by the National Agricultural Library of the Department of Agriculture of the United States of America. It contains copyrighted materials. All rights reserved.  
(2007) on STN DUPLICATE 1  
TI Fungal hydrophobins as predictors of the gushing activity of malt.

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(2007) on STN DUPLICATE 2  
TI Process technological effects of deletion and amplification of hydrophobins I and II in transformants of *Trichoderma reesei*.

L4 ANSWER 3 OF 4 BIOSIS COPYRIGHT (c) 2007 The Thomson Corporation on STN  
DUPLICATE 3

TI Are hydrophobins and/or non-specific lipid transfer proteins responsible for gushing in beer? New hypotheses on the chemical nature of gushing inducing factors.

L4 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN  
TI A method for decreasing the foam formation during cultivation of a microorganism

=> d ab bib 4, 3, 2

L4 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2007 ACS on STN  
AB This invention relates to a method for decreasing the foam formation during cultivation of a microorganism and to a method for producing an enhanced amount of a product of interest. The method comprises that the microorganism is modified in such a way that the microorganism does not produce an essential amount of at least one of the proteins, polypeptides or peptides associated with foam formation during

cultivation of the unmodified microorganism. In particular the method comprises that the microorganism is modified not to produce an essential amount of amphipathic or hydrophobic proteins, polypeptides or peptides.

AN 2001:152808 CAPLUS

DN 134:206662

TI A method for decreasing the foam formation during cultivation of a microorganism

IN Nakari-Setaelae, Tiina; Penttilae, Merja; Bailey, Michael; Tenkanen, Maija

PA Valtion Teknillinen Tutkimuskeskus, Finland

SO PCT Int. Appl., 65 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 2001014521	A1	20010301	WO 2000-FI707	20000821
	W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW				
	RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	FI 9901781	A	20010221	FI 1999-1781	19990820
	FI 108863	B1	20020415		
	CA 2382468	A1	20010301	CA 2000-2382468	20000821
	EP 1204738	A1	20020515	EP 2000-954690	20000821
	EP 1204738	B1	20060125		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL				
	JP 2003507056	T	20030225	JP 2001-518837	20000821
	AU 782206	B2	20050714	AU 2000-67052	20000821
	AT 316570	T	20060215	AT 2000-954690	20000821
	PT 1204738	T	20060531	PT 2000-954690	20000821
	ES 2257310	T3	20060801	ES 2000-954690	20000821
PRAI	FI 1999-1781	A	19990820		
	WO 2000-FI707	W	20000821		

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD  
ALL CITATIONS AVAILABLE IN THE RE FORMAT

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DUPLICATE 3

AB Gushing of beer is characterised by the fact that immediately after opening a bottle a great number of fine bubbles are created throughout the volume of beer and ascend quickly under foam formation, which flows out of the bottle. This infuriating gushing phenomenon has been, and still is, a problem of world-wide importance to the brewing industry. It is generally assumed that the causes of malt-derived gushing are due to the use of "weathered" barley or wheat and the growth of moulds in the field, during storage and malting. We now develop a hypothesis connecting several lines of evidence from different laboratories. These results indicate that the fungal hydrophobins, hydrophobic components of conidiospores or aerial mycelia, are gushing-inducing factors. Furthermore, increased formation of ns-LTPs (non-specific lipid transfer proteins), synthesised in grains as response to fungal infection, and their modification during the brewing process may be responsible for malt-derived gushing.

AN 2002:270203 BIOSIS

DN PREV200200270203

TI Are hydrophobins and/or non-specific lipid transfer proteins responsible for gushing in beer? New hypotheses on the chemical nature of

gushing inducing factors.

AU Hippeli, Susanne [Reprint author]; Elstner, Erich F.

CS Lehrstuhl fuer Phytopathologie, Labor fuer Biochemische Toxikologie, Wissenschaftszentrum Weihenstephan, Technische Universitaet Muenchen, Am Hochanger 2, D-85350, Freising-Weihenstephan, Germany  
S.Hippeli@lrz.tum.de

SO Zeitschrift fuer Naturforschung Section C Journal of Biosciences, (January-February, 2002) Vol. 57, No. 1-2, pp. 1-8. print.  
ISSN: 0939-5075.

DT Article  
General Review; (Literature Review)

LA English

ED Entered STN: 1 May 2002  
Last Updated on STN: 1 May 2002

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(2007) on STN DUPLICATE 2

AB Transformants of the *Trichoderma reesei* strains QM9414 and Rut-C30 were constructed in which the genes for the two major hydrophobin proteins, hydrophobins I (HFBII) and II (HFBIII), were deleted or amplified by molecular biological techniques. Growth parameters and foam production of the transformant strains were compared with the corresponding properties of the parent strains by cultivation in laboratory bioreactors under conditions of catabolite repression (glucose medium) or induction of cellulolytic enzymes and other secondary metabolites (cellulose and lactose media). All the transformed strains exhibited vegetative growth properties similar to those of their parent. The delta2 (but not the delta1) transformant showed reduced tendency to foam, whereas both strains overproducing hydrophobins foamed extensively, particularly in the case of HFBIII. Enzyme production on cellulose medium was unaltered in the delta2 transformant VTT D-99676, but both the delta2 and HFBIII-overproducing transformants exhibited somewhat decreased enzyme production properties on lactose medium. Production of HFBII by the multi-copy transformant VTT D-98692 was almost 3-fold that of the parent strain QM9414. Overproduction of HFBIII by the transformant VTT D-99745, obtained by transformation with three additional copies of the hfb2 gene under the cbh1 promoter, was over 5-fold compared to production by the parent strain Rut-C30. The delta2 transformant VTT D-99676 produced a greatly increased number of spores on lactose medium compared with the parent strain, whereas the HFBIII-overproducing transformant VTT D-99745 produced fewer spores.

AN 2002:50907 AGRICOLA

DN IND23281724

TI Process technological effects of deletion and amplification of hydrophobins I and II in transformants of *Trichoderma reesei*.

AU Bailey, M.J.; Askolin, S.; Horhammer, N.; Tenkanen, M.; Linder, M.; Penttila, M.; Nakari-Setala, T.

AV DNAL (QR1.E9)

SO Applied microbiology and biotechnology, May 2002. Vol. 58, No. 6. p. 721-727  
Publisher: Berlin, Germany : Springer Verlag.  
CODEN: AMBIDG; ISSN: 0175-7598

NTE Includes references

CY Germany

DT Article

FS Non-U.S. Imprint other than FAO

LA English